MEDICAL DISCIPLINE;

OR,

RULES and REGULATIONS

FOR PRESERVING THE

HEALTH OF SEAMEN

IN

VOYAGES TO HOT CLIMATES,

&c. &c.

S. GOSNELL, Printer,
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3.

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IN

VOYAGES TO HOT CLIMATES;

More eſpecially of thoſe in the Service of

THE HON. EAST INDIA COMPANY.

IN A

LETTER

ADDRESSED TO THE HON.

The Court of Directors,

AND PUBLISHED WITH THEIR APPROBATION.

By ALEXANDER STEWART,
Surgeon in Southwark, and formerly of the Earl Talbot and General Goddard Eaſt Indiamen.

Homines ad Deos, in nulla re propius accedunt, quam ſalutem hominibus dando. CICERO.

SECOND EDITION.

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1801.

BY PERMISSION.

TO THE NON.

THE COURT OF DIRECTORS

OF THE

United Company of Merchants of England

TRADING TO THE

EAST INDIES,

THESE HUMBLE, BUT WELL-MEANT ENDEAVOURS

IN THE CAUSE OF

HEALTH AND HUMANITY,

ARE MOST GRATEFULLY AND RESPECTFULLY

DEDICATED

BY THEIR OBLIGED AND FAITHFUL

HUMBLE SERVANT,

THE AUTHOR.

ERRATA.

Page 28, line 1, for *in* read *on*.
—— 45, — 8, for *meal* read *meat*.
—— 50, *comma* after ſoup.

PREFACE

TO THE

FIRST EDITION.

No apology, it is preſumed, can be wanting for offering to public notice the preſent endeavour to render the ſituation of that claſs of men, which is ſo deſervedly the juſt pride and boaſt of the Britiſh nation, more healthy and comfortable.

The work is chiefly adapted to the Eaſt India ſervice, in which ſo large a body of ſeamen are annually employed; yet the author is willing to flatter himſelf that it contains uſeful truths, applicable to every ſpecies of ſervice on the extended ſcale of navigation; and which, if attended to, will be found particularly uſeful, in thoſe ſhips deſtined for long voyages to hot climates.

The Court of Directors of the Eaſt India Company, with that readineſs of attention they always pay to plans of benevolence and utility,

have been pleaſed to honour it with their patronage. They have liberally ſubſcribed for a number of copies to be diſtributed to their different ſhips, and to be recommended to the attention of their commanders and officers—circumſtances which promiſe the happieſt effects in a cauſe of ſuch extreme importance.

To Dr. John Hunter, phyſician to the Hon. Company, my warmeſt acknowledgments are due for his kind notice of it, from firſt to laſt, as it officially came under his cognizance. I am alſo greatly indebted

to Dr. Saunders. The joint approbation of two ſuch phyſicians, ſo deſervedly high in the profeſſion, cannot but make a grateful and flattering impreſſion on my mind, and, in the eſtimation of the public, ſtamp an additional value on the work itſelf.

To an active and enlightened member of the Committee of Shipping, whoſe particular and obliging attention to this little tract, could only have been beſtowed on the ſcore of its public utility, I beg leave to offer my warmeſt and moſt ſincere thanks.

Retired from a ſervice that commands ſo much of my reſpect, in which I paſſed ſome happy years, and acquired friends who will ever remain dear to me, to find my endeavours for its good thus honoured and approved of, will to me be a matter of pride and pleaſing recollection throughout life.

Before I conclude this ſhort Preface, in juſtice to truth, I may be permitted to remark, that to the very judicious and laudable attentions of my valuable friend the commander, ſeconded by thoſe of my eſteemed

friend Mr. Blany, and the other officers, the crew of the GENERAL GODDARD, in 1794, and 95, were indebted for an uncommon ſhare of good health, throughout an arduous and a tedious voyage; which enabled them, towards the cloſe of it, under ſuch an able commander and ſuch officers, to perform ſignal and ſubſtantial ſervices to their country, by the capture of an enemy's fleet, off the iſland of St. Helena, in company with his Majeſty's ſhip Sceptre, Commodore Eſſington.

Canterbury Square,
Southwark, July 3, 1798.

LETTER

TO THE HONOURABLE

THE COURT OF DIRECTORS,

&c. &c.

Honourable Sirs,

THE propoſer of any plan which profeſſes for its object the good of that great commercial ſervice of which you are the guardians and protectors, is naturally led to ſolicit the attention of your Honourable Court to the points he wiſhes to make known and eſtabliſh,

It is in this light that I now preſume to addreſs you; and from that liberality and zeal with which you patroniſe every attempt to benefit the Eaſt India ſervice, I am encouraged to hope that you will honour with your attention the ſubject I now reſpectfully ſubmit for your conſideration.

A courſe of four voyages, a period nearly of ten years in the Honourable Company's medical ſervice, has enabled me, in my ſituation of ſurgeon, to obſerve, collect, and arrange, a number of facts on different matters relative to the important intereſts of health on board your ſhips, in their voyages to and from India.

It is a well-known and melancholy truth, that theſe voyages when protracted beyond the uſual length of time, from war, or other cauſes, have hitherto been very generally attended with great ſickneſs and mortality: the ſcurvy, fluxes, and malignant fevers, having frequently made dreadful ravages amongſt the crews.

Your ſhips, by far the beſt equipped and moſt valuable the commercial world could ever boaſt, form the grand medium of conveyance between Europe and Aſia, from which not only individuals, but the ſtate at large, derive opulence and commercial advantages unequalled by any other country in its moſt ſucceſsful periods. On the

health of their ſeamen depend, in a great meaſure, the certainty and duration of a voyage, and conſequently the ſafety of their valuable cargoes.

Your records will preſent to you many inſtances of ſhips having been detained for a whole ſeaſon in India, from the ill health of their crews; while others have been endangered and nearly loſt, from the ſame cauſe.

Your annual returns alſo give numerous proofs of great mortality at different periods amongſt your ſoldiers, on their paſſage out to guard your territorial poſſeſſions; and of great numbers having been ſo reduced and weakened by diſeaſe on ſhip-board, as to be to-

tally unfit for actual ſervice on their arrival in India. Hence your commercial and political intereſts are ſo intimately connected with the ſhare of health and active ſtrength enjoyed by your ſeamen and ſoldiers, that whatever concerns their preſervation will, I doubt not, appear to your Honourable Court an object as important in every view of wiſe policy, as it is truly intereſting to the cauſe of humanity.

The ſucceſsful experience of the late celebrated and humane navigator Captain Cook, has happily evinced how much it is in the power of well-directed management to preſerve the bleſſings of health, in the longeſt voyage, through every variety of climate.

His ſucceſs, together with ſimilar inſtances, warrant the aſſerting with confidence, that ſickneſs and mortality, to the deplorable extent they have ſo frequently occurred in voyages to hot climates, are by no means to be conſidered as evils unavoidable; nor as calamities entailed upon mankind from any change of climate or condition. On the contrary, it appears an undoubted and moſt important fact (which cannot be too ſtrongly inculcated) that the human body is fully endowed by its all-wiſe and never-erring Creator, with great and various powers, wonderfully ſuited (with due care and attention on our parts) to accommodate itſelf to every viciſſitude of climate and ſeaſon, to reſiſt diſeaſe al-

moſt equally well, and to enjoy nearly the ſame portion of health in all countries.

Strongly impreſſed with theſe intereſting conſiderations, with the thorough conviction of the many ſalutary effects that muſt reſult from the timely and judicious uſe of various ſimple methods, for the more effectual prevention of ſickneſs and mortality amongſt your ſeamen and ſoldiers; and indulging the hope that it is only neceſſary to point theſe out, in order to their being generally adopted; I humbly beg leave, with that gratitude and reſpect which I feel as an old medical ſervant now retired from your employ, to ſtate to your Honourable Court thoſe means,

which, from my experience in the ſervice, I have found to be beſt adapted for that ſalutary purpoſe.

The following directions and obſervations, the faithful reſult of much experience and attentive obſervation, during ſeveral voyages, will, I truſt, be deemed conducive to that great end.

They have received the approbation of ſome medical gentlemen of high authority, whoſe names, were I permitted to mention them, would entitle them to your ſerious attention.

They were firſt intended merely as a ſet of rules for the Honourable Compa-

ny's ſhip General Goddard, in the ſeaſon of 1794, on our ſailing from England, with the proſpect of a long paſſage; and were ſubmitted in the beginning of the voyage, with every deſirable effect, to the commander *, a gentleman whoſe attention to every particular that could contribute to the health of his ſhip's crew, and whoſe laudable humanity and benevolent ſolicitude at all times towards the ſick, merit an encomium far indeed above the feeble tribute of my praiſe.

Extracted from my MS Medical Journal of 1794, in your committee of ſhipping's office, they are now preſented to your Honourable Court, in

* W. T. Money, Eſq.

hopes that they will meet with your approbation, and prove beneficial to the ſervice.

Should they be honoured with your recommendation, they would claim a more particular attention from your commanders and officers, for whoſe information they are chiefly intended; and every thing uſeful they contain would be diffuſed and tried. They would become a plain manual of ſimple rules and regulations, eaſily reduced to a ſhort, methodical, and practical ſyſtem of diſcipline for the preſervation of health. Thus a general ſpirit of obſervation and improvement on this important head would be excited throughout the ſervice, which

could not fail of being productive of meaſures highly beneficial to the intereſts of the Eaſt India Company, to the welfare and comfort of their ſeamen and ſoldiers, and truly congenial to the warmeſt feelings of humanity.

Having premiſed ſo much by way of preface, or introduction, I now beg leave to obſerve, before I enter on my particular ſubject, that, as the carrying on a plan of the nature which I have the honour to recommend with regularity and effect, is neceſſarily connected with diſcipline and ſubordination, I leave it to the wiſdom of your Honourable Court to judge how far it would be proper and expedient (when once the various means are pointed

out) to make the commanders and officers refponfible for its being executed with all the care, attention, and perfeverance they can beftow.

To proceed. In the prevention of difeafes, we are to attend chiefly to one or other of two great points; either to remove entirely the caufes from whence it is known difeafes have their origin, or, where this cannot be effected, to endeavour to counteract their influence.

I fhall comprife what I have to fay on this fubject (without minutely entering into the mode of action) under the heads of CLEANLINESS, AIR, DIET, REST, EXERCISE, CLOTHING, *and* GENERAL REMARKS.

Cleanliness, in all its varieties, is well known to be indiſpenſably neceſſary for the preſervation of health. With regard to the neceſſary and important circumſtance of the cleanlineſs of your ſhips in general, there remains nothing for me to point out. This object is already ſo carefully and regularly attended to in your ſervice, and to ſuch an extent in many of your ſhips as certainly merits great praiſe, and from which the moſt ſalutary effects muſt always ariſe.

The practice of frequent ſcraping and ſweeping between decks, of waſhing the upper deck daily, the gun deck twice a week, and lower deck occaſionally, is to be continued in warm wea-

ther. In cold weather, if due attention is paid to cleanlineſs, by means of ſcraping and ſweeping well, perhaps it is neceſſary only to waſh the gun deck once in eight or ten days, as dampneſs (which always occurs more or leſs on waſhing days) when conjoined with cold, is a formidable cauſe in the production of ſcurvy and other diſeaſes. Moiſture, when conjoined with heat and ſtagnant air, is alſo highly prejudicial, and frequently gives riſe to putrid and malignant fevers; therefore, at all times the utmoſt attention ſhould be paid to keep the ſhip between decks as dry as poſſible, by means of ſtoves properly fitted; by frequent ſwabbing; by keeping up a free circulation of air, and every other poſſible means.

Every day after the gun deck is wafhed and fwabbed dry, four or five ftoves, carefully fitted with coal or wood, fhould be attentively placed on each fide of the deck, at convenient diftances fore and aft, until every part of it be thoroughly dry. The ftoves will have the double advantage of drying the deck fpeedily, and of correcting and purifying the air; which is generally beft and moft effectually done by means of fire and fmoke.

The feamens' chefts fhould not be ordered down, nor the men fuffered to remain below on wafhing days, until every part of the deck be thoroughly dry.

Great care fhould be taken that the

ports and ſcuttles fit well, ſo as to admit as little water in bad weather as poſſible; and in the high latitudes (as off the Cape of Good Hope, &c.) where bad weather is generally met with, they ſhould be carefully caulked in: attention at the ſame time being particularly paid to keep windſails in conſtant uſe, to uſe ſwabs as often as water comes in, and to dry the decks, and purify the air by means of ſtoves, as already mentioned.

As it is in ſuch latitudes and weather that ſcurvy and many other diſeaſes are moſt apt to break out, double care and attention are neceſſary to every poſſible mode of prevention.

It ſhould be a ſtanding rule to ſweep every corner of the gun deck twice a-day, (after breakfaſt and dinner) alſo to keep the different births as clear from cheſts as poſſible, to prevent harbouring dirt and moiſture; and to make every meſs reſponſible for the conſtant dryneſs, cleanlineſs, and good order of its birth.

All the births fore and aft ſhould be regularly viſited by the commander, or an officer, accompanied by the ſurgeon or his mate, morning and evening; and a ſtoppage of grog, or ſome ſuch fine, impoſed on thoſe who are moſt careleſs or ſlovenly in their births.

As men are often affected with dy-

ſenteries for ſome time without complaining, and alſo with ring worms, it ſhould be a conſtant rule to waſh well the neceſſaries called the head, and galleries, morning and evening, as a preventative againſt the ſpreading of the contagion.

As ſerious and fatal accidents have been known to ariſe from want of cleanlineſs in the cooks' coppers, and other culinary utenſils, they ſhould be regularly examined by the ſurgeon, and care taken not to let any thing acid, or that is apt to ferment and turn acid, remain in them, as, owing to theſe, a ruſt may gather, well known to be one of the moſt active poiſons we are acquainted with.

I beg leave here to remark a circumſtance that fell under my obſervation on board the General Goddard in the voyage of 1792.—On the paſſage between the Cape and Bengal, two of the gunner's meſs complained at different times of pains in the ſtomach and bowels, the cauſe of which at the time was not particularly attended to, as the pain was eaſily removed by a doſe or two of a laxative medicine, and laudanum. Soon after our arrival in Bengal, three or four of the ſame meſs were taken ill with a moſt violent attack of a particular kind of cholic, which proved extremely obſtinate in all, and one with great difficulty eſcaped with his life. In endeavouring to trace the cauſe of this extraordinary attack, confined to

one meſs only, I learned that they had been in the habit of keeping their allowance of water, for the ſake of coolneſs, in a veſſel lined with lead, which, from the inattention and careleſsneſs of their boy, had not been thoroughly cleaned from the time of leaving England. On examination I found a quantity of mud and dirt (a kind of ſediment from the water) adhering to the ſides and bottom of the veſſel, which I concluded had corroded the lead, or otherwiſe extracted ſome of its pernicious particles, ſo as to impregnate the water, and give riſe to the complaint. The ſame veſſel was kept in uſe for the remainder of the voyage, with the ſtrict precaution however of daily cleanſing it well, and no ſymptom of the complaint ever afterwards appeared.

It is not only neceſſary that every part of the ſhip ſhould be kept conſtantly as dry and clean as poſſible; but that the crew ſhould be kept ſo alſo in their perſons, bedding, and wearing apparel.

They ſhould be regularly muſtered, and made to appear clean, with a change of linen; their faces and hands waſhed, their beards off, and their hair properly combed and tied, at leaſt twice a week.

Regular and frequent waſhing days ſhould be appointed, and I would beg leave to propoſe that a certain number of men (ſay two out of every twelve) ſhould be appointed waſhermen for the others in rotation; that proper waſhing

tubs ſhould be provided, and a due quantity of ſoap always laid in (as ſtores) to be ſerved out occaſionally for the purpoſe of cleanlineſs.

All the hammocks ſhould be waſhed, cleaned, and well dried at ſtated periods, (at leaſt once a month) and the clothes and bedding frequently ſpread in rotation in fine weather on the booms, or hung up forward for airing; and occaſionally theſe ſhould be purified by ſmoke of ſulphur and tobacco as circumſtances may require.

A ſtrict and methodical attention in theſe reſpects would be evidently attended with much comfort and agreeable ſenſation to the men at the time; inde-

pendent of the ſalutary effects it would undoubtedly have in the preſervation of health.

An excellent and moſt judicious regulation for the purpoſe of cleanlineſs and good order in general, we are told was given out by Lord Howe to the captains ſerving under him during the American war; and which I underſtand has now become pretty general in the navy. Each ſhip's crew were divided into as many diviſions as there were lieutenants, theſe again into ſquads with a midſhipman appointed to the care of each, who was required to muſter and review them frequently, and each officer was reſponſible for the cleanlineſs and good order of thoſe aſſigned to his care.

This mode of discipline for enforcing cleanliness, and preserving health, cannot be too highly recommended. Its good effects have been experienced and confirmed in the navy, and it is greatly to be wished that the practice were generally adopted on board the Honourable Company's ships.

We have frequent and unequivocal proofs of the great utility of cold bathing in warm climates for the preservation of health. It braces and strengthens the system in general: hence its use, in a great measure, will prevent that languor and relaxation so common in hot countries. From the same effect it also enables the body to undergo more fatigue, and it powerfully assists the organs of digestion.

But, independently of theſe conſiderations, its effects, as contributing ſo much to cleanlineſs of perſon, ſtrongly point out the propriety of having frequent recourſe to it.

I have therefore earneſtly to recommend, that the men be compelled to uſe the cold bath once or twice a week (by having buckets full of ſalt water thrown over them), more eſpecially during the time that ſhips are within the tropics. This, at firſt, may be thought ſomewhat inconvenient, but in a ſhort time it would become an agreeable and refreſhing habit, that would be readily and cheerfully attended to by the men themſelves, without orders or compulſion.

The bath ſhould be uſed in the morning watch, when the ſtomach is empty, and the body not heated with work; and I would propoſe, that only half the men on deck bathe the firſt morning, and the other half, in their turn, the next morning, and ſo on, in rotation, with both watches. In this way it would come to every man's turn once in five days.

Having now mentioned all that occurs to me under the head of cleanlineſs, I proceed to the ſecond head, namely, AIR.

A due and regular ſupply of freſh air is as neceſſary to the ſupport of health and life as food itſelf, therefore, at all

times, every attention ſhould be paid to its free and conſtant circulation, and every care taken to keep it in as pure and healthy a ſtate as poſſible between decks.

Wind-ſails ſhould be in conſtant uſe on the lower or orlop deck, and in bad weather, when the ports and ſcuttles are kept neceſſarily ſhut, they ſhould never be neglected on the gun-deck.

In fine weather, when the wind is aft, the gun room ports ſhould be opened, ſcuttles ſhould be in the gun room bulk-head, and the fore hatchway kept open, while thoſe abaft are kept cloſely ſhut, in order that the wind may ſweep due forward all along the lower deck.

The air in the lower and gun deck ſhould be frequently purified by the ſmoke of gunpowder, moiſtened with vinegar; by ſtoves properly fitted with coal or wood, and placed carefully at convenient diſtances from one another fore and aft; by the daily uſe of wind-ſails; and occaſionally, by having the gun room ports up in the manner before mentioned.

But the moſt effectual and powerful agent for deſtroying noxious or putrid air is fire, and the beſt and ſafeſt way of communicating it is by the uſe of ſtoves.

Wherever there is a large fire, there is a great and perpetual change of air taking place, from the conſtant motion

or draught that is kept up, owing to the dilatation of the furrounding portion of air by the heat; hence the fire and fmoke of the galley, when on the gun deck, will not only tend to prevent dampnefs and moifture between decks, but be of infinite advantage in purifying and promoting a free circulation of the air at all times, but more efpecially in bad weather, when the ports are kept fhut. And hence alfo there rifes a ferious and weighty objection to the plan which has been lately adopted on board fome of the Honourable Company's fhips, and which, I believe, is becoming general in the fervice, of having the galley on the upper deck, a plan which, otherwife, is allowed to be admirably well calculated for utility and convenience.

The precaution of ſweetening and purifying the air on the lower deck is abſolutely neceſſary, even when no men ſleep below (which ſhould never be allowed as long as there is convenient room above on the gun deck), as foul noxious air is ſure to generate there, from the moiſture and exhalations from the hold, from ſtagnation of the air itſelf, &c. &c.

Every ſhip ſhould be ſupplied with one or two of the late invented air machines, to be kept regularly in uſe; as they appear well calculated for ſweetening and purifying the air in every corner.

I need not obſerve, that the cables on the lower deck ſhould be frequently aired, and when theſe are up, that the

deck ſhould be occaſionally waſhed, and always carefully ſcraped and cleaned.

In bad weather more particular attention ſhould be paid to dryneſs and cleanlineſs, and to the ſtate of the air on the gun and lower decks; for it is in ſuch weather, I muſt again obſerve, that ſickneſs is moſt apt to break out, and conſequently when double care and attention are indiſpenſably neceſſary.

The foul air that is generated in the well, which is known to be of a very noxious and fatal nature, ſhould be frequently purified by means of fire carefully lowered down in proper ſtoves; and when the bilge water is much corrupted, it ſhould not be pumped out

before breakfaſt; as in the morning, with an empty ſtomach, men in every ſituation are moſt liable to be affected with any noxious effluvia, and other cauſes of diſeaſe.

I muſt here beg leave to take notice of a cuſtom very general in India ſhips, which to me appears highly unfavourable to health; which I muſt, therefore, diſapprove of, and in every inſtance condemn, and wiſh to aboliſh.

On leaving England, and in ſailing from ports that ſhips occaſionally touch at on the paſſage, it is cuſtomary to keep a part of the live ſtock (ſheep, poultry, and hogs) below on the gun deck, even in midſhips, or in the very midſt of where the men ſleep.

In ſuch caſes, it is evidently almoſt impoſſible to keep the deck either ſweet or clean; and in ſo confined and crowded a place (more eſpecially in hot latitudes), the men's breath, mixed with that of thoſe animals, with the effluvia ariſing from their bodies, and with that of the different matters they diſcharge, muſt highly contaminate and vitiate the ſurrounding air, and render it very unfit for the purpoſes of healthful reſpiration.

On the ſubject of touching at ports on the paſſage, I think it here neceſſary to obſerve, that in ſuch caſes ſhips ſhould anchor at as great a diſtance from the ſhore as is conſiſtent with carrying on the various duties, in order to

avoid the land dews and exhalations, which often have been found extremely noxious and fatal.

Anchoring to leeward of marſhes, ſwamps, or thick woods, at whatever diſtance, ſhould, if poſſible, be avoided; and particular care ſhould be taken to keep the ports and ſcuttles conſtantly ſhut on the ſide next the ſhore in the night time, to prevent the land wind from blowing in upon the men while aſleep.

Thoſe who go on ſhore on duty ſhould avoid getting wet, and be as little as poſſible expoſed to the rays of the ſun. They ſhould on no account be ſuffered to ſleep on ſhore at night, or lie down

and ſleep in the day time, which they are apt to do after much fatigue.

They ſhould be on board about or before ſun-ſet, to avoid the falling of the dews; and they ought never to leave the ſhip in the morning without a warm, comfortable breakfaſt; for, as I before obſerved, men in every ſituation are moſt readily affected with the cauſes of diſeaſe in the morning with an empty ſtomach.

As thoſe who go on ſhore on the duties of wooding and watering, are known to be peculiarly liable to very malignant and contagious fevers, the utmoſt care and attention ſhould, on every occaſion, be paid to them.

They ought always to be ſupplied with a few doſes of bark, or ſome aromatic bitter; and when the duty is completed, they ſhould be committed for ſome ſhort time to the care of the ſurgeon, to guard, if poſſible, againſt thoſe fatal fevers which they are ſo often attacked with; and which, in many caſes, may be done by the early uſe of a vomit, purge, and a few doſes of bark.

I come now to the head of DIET, under which I ſhall comprehend *ſolid food*, *water*, and *ſpirits*.

With regard to SOLID FOOD, although the managing owners of the Eaſt India ſhips, with a degree of attention and liberality highly to their credit, ſpare no

pains or expenſe to ſupply the ſhips with ſalt proviſions of the beſt quality, and in quantity more than is allowed in any other ſervice; yet it muſt appear evident to every medical obſerver, who has had any opportunity of paying attention to the ſubject, that many very material alterations and improvements might be made in the preſent mode of victualling, which would prove highly beneficial to health, and which, in point of expenſe, would prove a ſaving.

The proportion of ſalt beef and pork allowed for a warm climate is certainly too great, and that of many other articles too little; a ſufficient quantity of extra proviſion for the ſick and convaleſcents, and of proper antiſcorbutics for

the ſhip's company, are ſeldom or ever laid in on fitting out, circumſtances which, from the well-known attention and liberality of the managing owners, muſt be entirely owing to the want of a proper repreſentation.

If the quantity of ſalted proviſions were diminiſhed, and the ſaving that would accrue therefrom be laid out in the purchaſe of ſick ſtores and antiſcorbutics, the commutation would not only prove acceptable to the men, but extremely beneficial to the preſervation of health *.

* On this important point I purpoſe ſoon reſpectfully to ſubmit my ſentiments to the conſideration of the managing owners.

On this head, however, as little can be done by the commanders and officers, I ſhall here only obſerve farther, that at ſea, when the preſent allowance of ſalt meat can be diminiſhed, and that of other articles, as peaſe, potatoes, flour, fruit for puddings, &c. be increaſed, it ought in every inſtance to be done.

Every meſs ſhould always be plentifully ſupplied with vinegar and muſtard, as theſe articles greatly tend to counteract the bad effects of ſalted or putrid meat.

As there is reaſon to think, that more than a certain quantity of ſalt introduced into the human ſyſtem is attended

with pernicious effects, it would be a good rule daily to ſoak the allowance of ſalt meat and fiſh in water (frequently changed), with the view of extracting a part of its ſalt; and, for the ſame reaſon, it ſhould be boiled in as large a quantity of water as can well be done. I do not mean, however, it ſhould be kept in ſoak ſo long as to render it inſipid, or deprive it of any part of its nutritive qualities.

In touching at any ports on the paſſage, great caution ſhould be obſerved with reſpect to the quantity of freſh meat and vegetables at firſt allowed; as I can confidently aſſert, from repeated obſervation and experience, that the uſual allowance in a warm climate, and

immediately after a long courſe of ſea diet, is by far too much; and, if I greatly miſtake not, frequently gives riſe to obſtinate fluxes, fevers, and a variety of bilious diſorders.

It is a general opinion, that after being a long time at ſea, the more vegetables and freſh meat ſeamen are allowed immediately on their arrival in port, the more they will be benefitted, and, to uſe their own expreſſion, the ſooner get the ſalt out of their blood. Having this idea themſelves, and knowing no moderation in the uſe of their liberal allowance, they generally indulge to an exceſs, which, inſtead of effecting the wiſhed-for ſalutary change in the

conſtitution, is frequently the cauſe of much ſickneſs.

I am decidedly of opinion, therefore, that on a ſhip's arrival in port, the uſe of vegetables and freſh meat ſhould at firſt be cautiouſly moderate, ſhould chiefly be uſed in form of well-prepared ſoup, and be only by degrees increaſed to the uſual full allowance.

Indeed I have often thought (and ſometimes recommended), that it would be of great ſervice to have a proportional ſhare of the uſual diet continued for ſome time after the arrival in port, in order to effect, in a gentle and gradual manner, that great change in

the ſyſtem which muſt take place from a full diet, of ſo nouriſhing and oppoſite a nature to that uſed at ſea.

With this view, a ſea pye (of which ſeamen are remarkably fond), when properly made with a mixture of freſh and ſalted meat, vegetables, and ſeaſoning, would be an excellent mode of victualling, for ſome days, on the firſt arrival in port.

The ſame obſervation may be made with reſpect to the particular article of fruit; none ſhould be allowed to come on board but what is perfectly ripe, and of the beſt kind; and it ought to be ſerved out in proper proportions by the ſhip's ſteward.

I am perfectly convinced, that want of due attention to these particulars is often the cause of dangerous sickness on the arrival of ships in Bengal river, and other harbours of India, and therefore, that it is well worthy of the most serious consideration.

Much benefit would be derived from the plan of allowing the ships' crews a proportion of fresh-baked fermented bread, once or twice a week, in lieu of biscuit. The sick and convalescents in particular would be materially benefitted by a daily allowance.

This plan was adopted by the benevolent commander of the General Goddard with the happiest effects.

The wheat breakfaſts in cold weather is an excellent article in the mode of victualling, but the ſhips are ſeldom ſupplied with a ſufficient quantity. It would anſwer equally well in warm weather, at leaſt it would prove an agreeable and beneficial change occaſionally inſtead of meal. Rice, on the homeward-bound paſſage, would prove an excellent ſubſtitute.

A ſtill better plan, however, which was alſo adopted on board the General Goddard, is, laying in a quantity of tea and ſugar, to be ſerved out from time to time to the different meſſes; and at all times to the ſick and convaleſcents. This we found to be extremely ſalutary, and

it is greatly to be wiſhed it were to become a general practice in the ſervice.

I come now to the article of WATER; and I need ſcarcely obſerve, that no pains ſhould be ſpared in laying in as large a quantity of the beſt and pureſt as can be got, and as often as can be done.

The water, at many of the ports that ſhips touch at in the paſſage, is frequently the cauſe of much ſickneſs on board, on which account, the moſt particular attention is always neceſſary in laying it in: ſpring water, where it can be had, is always to be preferred; next to that clear, running water, which ſhould

be taken from as near its ſource as poſ-ſible.

Stagnant and brackiſh water, it is well known, ought at all times carefully to be avoided.

In ſituations where none but unwholeſome water can be got, the proceſs of boiling will tend much to correct its bad qualities.

No pains ſhould be ſpared to render the water on board as ſweet and pure as poſſible. When thick or muddy, it ſhould be filtered and cleared with a little allum. The day's conſumption ſhould be pumped off, carefully filtered,

and expoſed to the air, at leaſt twenty-four hours previous to its uſe.

Oſborne's water machine, with which the Company's ſhips are generally ſupplied, is an admirable contrivance in this reſpect, and ſhould be kept in conſtant uſe. Care ſhould be taken when the ſcuttle butt is empty, to have it well waſhed before any water is again pumped into it.

With regard to the uſe and conſumption of water, there is one circumſtance which I have particularly and moſt earneſtly to recommend, namely, that the crews never be reſtricted to any particular allowance; a cuſtom very general in the ſervice.

The diet of ſeamen peculiarly requires a conſtant and conſiderable dilution—nature ſtrongly craves it: and it would be next to cruelty even to run the hazard of not ſupplying her demands, in this reſpect, to the utmoſt extent. Beſides, the free and plentiful uſe of good water, which may be always had with a little care and attention, is among the beſt correctors of a ſea diet, and, conſequently, an excellent preventative of ſcurvy and other diſeaſes.

Inſtead of an allowance therefore being ſerved out daily, the ſcuttle butt ſhould never be allowed to be empty; (unleſs for the purpoſe of cleaning it) and every man ſhould be permitted to take as much water as he has occaſion

for, the officer on deck taking care, at the ſame time, that none be wantonly ſpilled or waſted.

With regard to the beſt mode of diſtilling freſh water from ſea water, on ſhip board, I cannot here do better than refer to Mr. Jonathan Farquhar's letter on this ſubject, addreſſed to your Honourable Court in 1790, printed by your order, and diſtributed as inſtructions to the commanders of the Company's ſhips.

Water ſo procured may at all times be very advantageouſly uſed for making peaſe ſoup for the live ſtock on board, and for waſhing the ſeamens' ſhirts.

I am now, Honourable Sirs, come to the article of LIQUOR; the effects of which, owing to its imprudent and excessive use, is among the greatest enemies the health of seamen has to contend with; particularly when habitually used, in what is called its raw state.

The practice on board most India ships of regularly serving out drams in the early part of the day, I have always considered as productive of the most pernicious consequences.

Much might be said in support of this opinion; but I shall at present only observe, that the habit of daily swallowing a quantity of liquor in its raw state, should be most scrupulously abstained

from; and that drams ought never to be given, unlefs after great fatigue, long expofure to cold, or on getting thoroughly wet. On fuch occafions a glafs of good pure fpirits is not only innoxious, but even abfolutely neceffary for the prefervation of health, as it diffufes a fudden warmth and ftimulus, which excites a temporary vigour in the fyftem, and enables it to refift, or in a great meafure to obviate the bad effects that might otherwife enfue.

At the end of a long, cold, wet watch, rubbing the body dry, a change of comfortable dry clothing, and a glafs of pure, unadulterated fpirits, would, in numberlefs inftances, prevent many an able feaman from appearing next day in the

ſick liſt, and eventually, perhaps, be the means of ſaving his life.

Although the bad effects of ſpirits, when habitually uſed, muſt undoubtedly be diminiſhed in proportion to its dilution with water, yet they cannot, I think, be totally obviated by the mixture with water alone; and the cuſtom of giving ſeamen their allowance of liquor daily, in form of their favourite and famed beverage, *Grog*, is far, in my opinion, from being ſalutary or commendable.

According to the ordinary proportion of water, it is, undoubtedly, only the leaſt of two great evils.

The only mode, it appears to me, in which liquor can be daily allowed to ſeamen with ſafety and advantage, is in form of punch, made with either the freſh or preſerved acid of vegetables, as lemon, lime, or orange juice. When the liquor is in this manner blended with the acid and ſugar, and a large proportion of water, many of its bad qualities are corrected, and the acid and ſugar are given in a pleaſant, palatable form with infinite advantage. In this ſtate it counteracts the bad effects of a ſea diet, and powerfully prevents ſcurvy.

An ordinary allowance of punch daily given at dinner, is, perhaps, among the moſt effectual antiſcorbutics that can be uſed at ſea. We have inſtances

on record where this practice, in a long voyage, saved whole crews, even from the slightest symptoms of scurvy; while other ships in the same fleet, and exposed only to the same causes, were daily burying men cut off by this dreadful malady.

But of the virtues of this acid, (on which those of punch chiefly depend) both in the cure and prevention of scurvy, I can decidedly speak from my own immediate observation and experience.

On board the General Goddard, during the voyage of 1792, several cases of scurvy occurred among the soldiers, in recovering from a contagious fever that raged universally for a time amongst

them, which were all ſpeedily and effectually cured by the liberal uſe of preſerved lime juice. And I have every reaſon to think that the diſeaſe was prevented in a great many others by the daily uſe of a ſmall quantity of the acid mixed with water, and the addition of a little wine and ſugar.

Indeed I conſider this acid, in its freſh or preſerved ſtate, to be as effectual in curing and preventing ſcurvy, as the bark and mercury are in curing the ague and ſyphilis; and a large quantity of it as neceſſary to be laid in by ſhips at every place it can be procured.

I have therefore ſtrongly to recommend, that a freſh quantity be always

purchased at every port a ſhip touches at on the voyage ; and alſo that a part of the ſhip's ſtock of liquor be made into ſhrub, that is to ſay, that a certain quantity of acid and ſugar be mixed with a certain proportion of ſpirits, to be kept, and daily ſerved out to the men during their continuance at ſea.

It were moſt truly and earneſtly to be wiſhed, that the Honourable Company's ſhips ſhould always be ſupplied, on their fitting out, with a quantity of their liquor made previouſly into ſhrub, which would only require a proportion of water to make punch. That the uſe of punch, in a moderate degree, ſhould become general—that drams ſhould never be given unleſs in ſuch inſtances of ex-

posure as I have already mentioned—and that grog should be used as seldom as possible. In my mind the beneficial effects that would arise from such practices would be great indeed.

The practice common among seamen of gambling for, or exchanging their allowance of liquor, and of making liquor the reward of every little job done for the officers, or for each other, should be universally discouraged and prevented: with many other bad effects, it leads to the vile habit of drunkenness, so injurious to health and morals;—a habit, in my opinion, meriting a punishment equal to any generally inflicted on board.

The ſeamen, on no account, ſhould be allowed to lay in a private ſtock of liquor on fitting out, for ſea uſe; and the cuſtom of exchanging a part of their ſalt proviſions for liquor, at St. Helena and other ports on the paſſage, ſhould be ſtrictly prohibited.

I come now to the fourth general head, viz. REST and EXERCISE.

That a proper degree of exerciſe is neceſſary is ſufficiently obvious: and that reſt and ſleep, in proportion to the fatigues of the day, are indiſpenſably neceſſary for the purpoſes of health, is alſo equally evident. Seamen ſuffer ſeverely in this reſpect; and it is greatly owing to the ſhort, irregular, and diſturbed

ſleep they commonly have, that they ſo ſoon and ſo eaſily fall a prey to ſickneſs, and premature old age.

A due and proper degree of regular undiſturbed ſleep would add much to their comfort, and to their public utility, by greatly aſſiſting in the preſervation of their health.

It would be highly advantageous if the crews in the Company's ſhips could with propriety be divided into three watches. Latterly this was the conſtant and invariable cuſtom of the enlightened and humane Captain Cook; a cuſtom which always had the happieſt effect on the health of the ſhip's company. According to the preſent eſtabliſhment

in the Honourable Company's ſervice, perhaps this diviſion would be found inconvenient, at leaſt for any continuance of time; but with all due deference, I conceive that alterations greatly for the better might be made even at watch and watch, ſo as to allow ſix hours of uninterrupted ſleep inſtead of four. Suppoſe the ſtarboard watch were to turn in at eight at night, and not relieve the other until two, inſtead of twelve; and the larboard again not to relieve them until eight, inſtead of four in the morning. This, with a ſhort ſleep through the day, would, perhaps, be ſufficient; at any rate, it appears to be greatly ſuperior to the common plan, of four hours below, and four hours on deck alternately at night; for I conceive that

the inconvenience or fatigue, even in the worſt weather, of ſtaying two hours longer on deck, is not to be put in competition with the advantages and refreſhment that would ariſe from two hours more, (in all ſix, inſtead of four) of undiſturbed repoſe. However, the commanders and officers in this reſpect are by far the beſt judges what can, or ought to be done, and I only beg leave to hint the circumſtance for their conſideration.

While fatigue, and long continued exerciſe or labour, are as much as poſſible to be avoided, and a due proportion of reſt and ſleep allowed: on the other hand it is equally neceſſary not to indulge or encourage the idle and lazy, nor to allow the men, in general accuſ-

tomed to a great deal, to ſuffer from want of exerciſe, as they are apt to do in the trade winds, and other ſeaſons of exemption from the ſhip's duty.

At ſuch times, and indeed at all times when on deck, and not employed, dancing, fencing, cudgelling, and all manner of harmleſs games that exerciſe the body and divert the mind, ſhould be encouraged; in ſhort, every thing ſhould be allowed and encouraged, as far as is conſiſtent with innocence and diſcipline, that any ways tends to diffuſe cheerfulneſs and good humour.

In this light, at ſuitable times, I highly approve of muſic, and eſpecially of the fife and drum. On occaſions

when theſe play and beat, a piece of duty is not only executed with more ſpirit and activity, but by their animating and exhilirating effects on the mind, they tend to diſpel melancholy, lowneſs of ſpirits, and other depreſſing affections, well known greatly to favour the approach of ſcurvy and other diſeaſes. It would be a commendable plan to encourage ſinging, and entertaining ſtory-telling at night among the men on deck, at times when they are not at work, or walking about, in order to engage their attention and prevent their ſleeping on deck, which they are apt to do, and which is often extremely prejudicial to their health, particularly when the deck is damp, or when they lie down in a draught of air. Sleeping on deck ſhould therefore

be prevented as much as poſſible at all times; and when below, men ſhould be cautioned not to lie down on cheſts oppoſite a port, at which a current of wind enters, as nothing can be more prejudicial than to have the whole or any part of the body expoſed in this ſtate while aſleep.

It is proper I ſhould here take notice of a cuſtom, or certain mode of puniſhment, on board many ſhips, erroneouſly ſuppoſed ſlight in its nature. When a man is found aſleep in his watch, and not ready at a call, it is uſual to awake him by throwing a bucket full or two of water over him, a circumſtance which may be attended with very bad conſequences, if the

man does not immediately ſhift and rub himſelf dry, which he ſeldom or never thinks of attending to. It would be better by far to flog him well with a rope's end.

Having now mentioned all that occurs to me under the head of Reſt and Exerciſe, I come to the fifth general head, viz. CLOTHING.

The great advantages of proper clothing in the preſervation of health are quite evident and daily aſcertained by the ſtate of our own feelings; but owing to thoughtleſsneſs and inattention, ſeamen are generally very deficient in this neceſſary and comfortable article.

A due degree of clothing, adapted to the ſtate of the weather and climate, acts by preſerving a juſt balance and diſtribution in the great maſs of the circulating fluids of the ſyſtem, by ſupporting an uniform and equal circulation on the ſurface of the body; and by preventing a partial or general ſuppreſſion of that perſpirable matter, the eſcape of which is ſo neceſſary to the purpoſes of health.

In every climate an attention to this particular is therefore indiſpenſably neceſſary, but more eſpecially ſo in an Eaſt India voyage, when men are expoſed to every variety of climate from below the freezing point up to 90 and 100 degrees of Farenheit's ſcale.

Warm comfortable clothing in the cold boiſterous weather met with off the Cape, and in other high latitudes, will greatly contribute to the prevention of ſcurvy and many other diſeaſes. When ſhips approach ſuch latitudes therefore, the men ſhould be made to wear a due quantity of the warmeſt they have got; and ſuch as are deficient ſhould be ſupplied from the ſlop cheſt, which, on fitting out, I may here remark, ſhould be always amply ſupplied with every article neceſſary for the voyage.

Equal attention is due to proper light clothing in warm weather; and care ſhould be taken that no part of the body, uſually covered, be expoſed to the rays of the ſun, or to the current of

warm air, ſo common in hot countries, as a ſuppreſſion of perſpiration would thereby be the conſequence—a circumſtance to be conſidered always as more or leſs dangerous.

The men ſhould never be allowed to go about dreſſed in a careleſs or ſlovenly manner. A neat and cleanly appearance, as far as circumſtances will allow, ſhould be inſiſted on. In the hot latitudes they ſhould never be permitted to appear without their hats, and, as the ſlighteſt ſcratches on the feet and legs, from the nature of a ſea diet, are apt to run into ill-conditioned ſores and ulcers, they ſhould always be made to wear ſhoes and ſtockings.

When they are over-heated with work in the hold, &c. they ſhould particularly avoid coming up in the air with their naked bodies expoſed, in order to cool themſelves; nor, in like circumſtances, ſhould they ever drink large or ſudden draughts of cold water to quench their thirſt. I have frequently known tremors, vomiting, and febrile attacks immediately follow ſuch imprudent conduct.

When on deck they ſhould be as little as poſſible expoſed to the rays of the ſun; never ſuffered to ſit or lie down at ſuch times, as they are very ready to do; and ſuch duties as can be conveniently put off until the evening or morning ſhould never be executed in the heat of the day.

Awnings forward and on the poop in the hot latitudes, to prevent expoſure to the rays of the ſun, would be of conſiderable benefit.

At all times every care ſhould be taken that the men have a dry and comfortable change of clothes, in caſe of getting wet; and at the end of every wet watch it ſhould be an invariable rule with the officers of that watch to ſee the whole ſtrip, get well rubbed dry, and either turn into their hammocks, or put on dry clean clothing; at the ſame time giving particular orders to have the wet clothes hung up to dry the firſt poſſible opportunity—a conſtant attention to this point, a ſimple and eaſy practice, with a glaſs of pure ſpi-

rits, in cafes of long expofure as before mentioned, I am convinced would be the means of preventing much fick-nefs, and faving many a valuable life.

In cold wet weather much benefit would be derived from the ufe of flan-nel fhirts, due attention being paid to cleanlinefs, and fometimes they would be equally beneficial, even in warm cli-mates, by preventing a partial or ge-neral check of perfpiration, fo frequent and dangerous in hot countries.

Every care fhould be taken that the feamen be fupplied with proper ham-mocks, bedding, and a due quantity of bed clothes, and that they never be al-lowed to fleep on chefts or on deck at

night, which ſome from careleſsneſs in loſing their hammocks and bedding, and others from mere lazineſs, frequently do.

An inventory, or regular account ſhould be taken of every man's ſtock of clothes in the ſhip by the commanding officer, and kept in a book, for the purpoſe of being occaſionally referred to. Such as are deficient ſhould be ſupplied with what is neceſſary; and the men ſhould be muſtered, and their clothes inſpected at ſtated periods, in order to keep up a proper ſtock, and to puniſh thoſe who are moſt careleſs in loſing any part, or (which is too often the caſe) who exchange any for liquor.

General Remarks.—Under this head I firſt of all beg leave to take notice of the numerous and various accidents that happen on ſhip board, from cauſes which often, perhaps, might be avoided. I have ſeen much miſchief, even ſometimes death, happen from the accidents I allude to, namely, blocks breaking and falling from aloft; men falling down the hatchways; hurts and bruiſes in conſequence of intoxication, fighting, &c. &c.

It ſhould therefore be the particular care of every officer to guard as much as poſſible againſt accidents even of the ſlighteſt nature. It ſhould be a rule to ſee that the hatches are always laid over at night, or provided with ſome guard

or fence, to prevent the men from falling down them in the dark.

Quarreling and fighting ſhould at all times be prevented; and as men in a ſtate of intoxication, on ſhip board, are peculiarly liable to accidents of a dangerous nature, none in this ſtate ſhould be ſuffered to go about, but ordered immediately to bed until perfectly ſober, and then ſome puniſhment ſhould invariably be inflicted, as an example for the general good.

As men frequently fall overboard, I need hardly obſerve that two or three buoys, or floating ſubſtances, ſhould be always in readineſs to let go; and a boat ready to be lowered down at a mo-

ment's warning, by which many lives may often be ſaved.

There is a frequent, and very formidable cauſe, though a ſeemingly trivial one, in the production of ſome bilious diſorders, and others, which I have not yet mentioned, and to which ſeaſaring people are peculiarly liable---I mean a coſtive habit of body: here provident and bountiful nature affords an admirable and effectual antidote in the ſurrounding watery element, perhaps by far the beſt that can be uſed; and therefore, when nature herſelf is not regular in performing her uſual and neceſſary functions at leaſt once a day, a large glaſs or two of ſalt water taken

in the morning, faſting, may be of infinite uſe.

In what I am now going to ſuggeſt, Honourable Sirs, I may be conſidered by ſome to deviate from my profeſſional line; but, conceiving it no deviation, I ſhall not be deterred by the fear of appearing ſingular, from maintaining what both obſervation and experience have fully impreſſed on my mind, namely, *That a ſtrict attention to the morals of ſeamen, and to the due and regular performance of public worſhip on ſhip-board, will highly contribute to the preſervation of health.*

If I miſtake not, it will always be found that the moſt healthy, cleanly,

uſeful, and valuable ſeamen are men of the beſt private or moral character; and that, very generally, the reverſe of the obſervation will hold equally true.

The able and experienced ſeaman is, indeed, in every ſenſe of the word, a truly valuable character---he is only thoughtleſs and inattentive as far as regards his own health and welfare.

As a man, he will yield to no one in his deteſtation of whatever is mean, ungenerous, or diſhonourable---he has an open, a noble, and an honeſt heart.

As a ſeaman, to be cheerful, active, and prompt in the execution of his duty; to bear fatigue and the viciſſi-

tudes of weather and climate without murmuring; to be ſteady and collected at his poſt in the hour of difficulty and danger; to be obedient, reſpectful, and attached to the officer worthy to command him; to be faithful and true to his king and country; courageous in action, and humane in victory, are ſplendid virtues which he eminently diſplays as occaſions require*.

Such, Honourable Sirs, it is well known, are the leading characteriſtics of a Britiſh ſeaman; and who can reflect

* As the above obſervations on the nature and diſpoſition of ſeamen may ſtrike ſome of the readers of this little work to be a quotation, it becomes the author to inform them that an extract was taken from the MS. and inſerted in the Analytical Review for June 1797—page 670.

without a ſigh on the manifold hardſhips, from ſickneſs and other cauſes, he daily encounters? on the extreme miſery and diſtreſs ſo often his lot? And who that has it in his power but will ſtrenuouſly act *his part* to mitigate the ſufferings, alleviate the diſtreſſes, and contribute to the health and welfare of this ineſtimable claſs; the very life and ſoul of our commerce; the great bulwarks and guardians of our nation?

It is far from being ſo, however, in nature or in character with all on ſhipboard; and ſome will be found, in both, the very reverſe of what I have juſt now endeavoured to delineate; perfect lubbers, the meaneſt and moſt

profligate of mankind; the very ſcum of the earth and outcaſts of ſociety, who, in reality, are an utter diſgrace to the jacket they wear. It is among ſuch as theſe, immerſed in indolence, ſloth, and vice, that ſickneſs generally firſt makes its appearance. Such abandoned wretches are guilty of every irregularity and exceſs, equally unfriendly to health and to morals: they corrupt the minds of the young and thoughtleſs by their pernicious examples; and by their vicious habits they generate and diſſeminate diſeaſes of the moſt fatal and malignant nature, which affect the health and endanger the lives of a whole ſhip's crew. Surely, then, the ſtrict hand of diſcipline and authority, when properly exercifed, can never be more uſefully em-

ployed than in endeavouring to correct the principles and reform the manners of ſuch a deſcription of men, which will not only tend to their own health, and every moral and bodily good, but to the comfort and happineſs of all on board.

Slothfulneſs, indolence, drunkenneſs, theft, gambling for liquor, fighting, and all other ſuch flagrant vices, ſhould therefore not only meet with exemplary puniſhment, but the precepts of temperance, ſobriety, and good order, ſhould always be ſtrongly inculcated, and the examples of theſe virtues held forth for their imitation.

The regular and ſolemn performance

of public worſhip, in preſence of the whole ſhip's company on the quarter deck, once in the week, in ſuitable weather, I need hardly remark ſhould never be neglected either at ſea or in harbour.

A proper idea of religion, a habit of duly and regularly imploring the protection and aid of the Author of all good, independently of every other conſideration, will highly contribute to the preſervation of health.

It tends greatly to introduce cleanlineſs, ſobriety, and good order. It teaches obedience, ſubordination, and a faithful and regular diſcharge of the different duties in the ſtations allotted to

each individual. It produces, above all, a happineſs and ſerenity of mind that baniſhes melancholy, diſcontent, and all the train of depreſſing affections: and in the hour of ſickneſs and diſtreſs, when all human aid avails nothing, it will prove a firm and never-failing ſupport of inward comfort and happineſs.

There now remains, Honourable Sirs, only a few obſervations to be made reſpecting the ſick and convaleſcents; and the ſteps to be taken, if unfortunately a ſhip's crew, by any unavoidable circumſtance, or otherwiſe, ſhould become ſickly.

In caſes where fevers, or other diſeaſes of a malignant or contagious na-

ture prevail, the ſick ſhould immediately be ſeparated from their meſſmates, and a ſick birth made for them in the quieteſt, moſt airy, and convenient part of the ſhip.

At all times, and in all ſituations, proper careful attendants ſhould be appointed to watch and nurſe the ſick, to be at hand conſtantly to ſupply their wants, and make their demands known, and to pay the moſt minute attention in keeping them as clean, airy, and comfortable, as poſſible. On theſe attentions, frequently, much more depends than on the whole powers and virtue of medicine, and at all times, every hour of the night and day, they ought to be moſt ſtrictly and carefully attended to.

In cafes of a very malignant and contagious nature, all communication with the fick birth fhould be cut off, unlefs through the furgeon and attendants; and where a fever of this nature unfortunately rages, avoiding coftivenefs, and occafionally taking a dofe of the powder or tincture of bark, will often fecure many of thofe who are well from its attacks.

Fires fhould be frequently lighted in the fick birth to purify the air. The furrounding part of the deck, the beams and fides of the fhip fhould be frequently fprinkled with hot vinegar, impregnated with camphor, allfpice, or fome grateful aromatic; and the utmoft poffible attention, in every refpect, paid to cleanlinefs, drynefs, and ventilation.

The buckets that the ſick uſe ſhould be properly fitted with a top, kept conſtantly clean, and, after uſe, waſhed and left half full of ſalt water.

The ſick ſhould frequently ſhift, and their foul linen ſhould be immediately ſteeped in ſalt water, and carried on deck, there to remain until waſhed, which ſhould be done as ſoon as poſſible.

Their bedding, when they are able to ſit up, ſhould occaſionally be purified with ſmoke of tobacco or ſulphur, and always hung up in the rigging for airing, at as great a diſtance, however, from where the men work as poſſible.

The ſick themſelves ſhould appear on

deck in fine weather as long, and as often as they can, for the ſake of air and gentle exerciſe, taking particular care, however, to avoid expoſure to cold or partial draughts of air; to avoid getting wet, or being expoſed to the rays of the the ſun.

The convaleſcents in particular will be greatly benefitted by attention to theſe points.

In ſickly times, on ſhip-board, many of the crew are often ill for ſeveral days without complaining; the moment, therefore, an officer obſerves any of his watch to be more inactive, or look worſe than uſual, or any ways in a ſickly or droop-

ing ſtate, he ſhould order him immediately to be examined by the ſurgeon.

With regard to nouriſhment, the inclination of the ſick themſelves ſhould generally be conſulted; they ſhould be indulged in moderation, and nothing uſeful withheld that the ſhip can poſſibly afford.

A light reſtorative diet, the moderate uſe of wine, along with cleanlineſs, comfortable clothing, gentle exerciſe, and a cheerful mind, as men are recovering from fevers, fluxes, &c. are the beſt ſureties againſt a relapſe, and the appearance of ſcurvy (ſo frequent in ſuch caſes), and the only means that can be de-

pended on for the reſtoration of uſual health and ſtrength.

When a man has recovered from fever, or any contagious diſeaſe, before he is permitted to mix with his meſſmates, his hammock ſhould be well cleaned, and waſhed, and carefully purified; his bedding ſhould alſo be purified and well aired, and all his wearing apparel either purified or thoroughly waſhed: his hair ſhould be well waſhed with ſoap and water, and the warm or cold bath uſed (as may be judged beſt), for the ſake of thorough and general cleanlineſs.

Every ſhip ſhould be provided with a proper bathing tub, to be always kept

at hand, as many cafes may occur where it will be much wanted.

When men are recovered, and returned to duty, great attention and tendernefs are due to them on the part of their officers; indeed, at all times, much depends on the proper conduct of the officers towards the crew in the prefervation of their health.

Seamen, of all claffes of mankind, are the moft thoughtlefs, and leaft attentive to whatever relates to their own welfare; in this refpect they are mere children, and the judicious and humane officer, therefore, if I may be allowed the expreffion, will tend and watch over them with the careful and anxious eye

of a parent; he will conſider all the crew as one family, of which he is the guardian, and whoſe welfare and happineſs will flow in proportion to the tenderneſs, care, and attention he beſtows in fulfilling thoſe duties, which humanity, as well as the ſituation in which he is placed, impoſe on him.

An imperious, harſh, or ill-natured mode of diſpenſing orders, or of carrying on duty, I apprehend to be as repugnant to the true ſpirit of diſcipline and ſubordination, as to the pure and mild principles of humanity; inſtead of accelerating the execution of duty, it invariably retards it, and it never fails of introducing diſcontent, vexation, and deſpondency, among the crew; ſtates of

mind which I have oftener than once obferved to be highly conducive to the production of fcurvy, and other difeafes.

An uniform, affiduous, and humane attention to the welfare and comfort of all; to ftudy the character of each, and endeavour to make every man happy and pleafed with himfelf; to check the forward and prefuming; to protect the young and diffident; to difpenfe his orders in a mild and conciliating, yet in a fteady, decided, and manly manner; and invariably (in the words of a learned and humane phyfician*) to endeavour to reconcile ftrict difcipline with indulgence and humanity, are certainly among

* Dr. Blane.

the neceſſary traits in the character of an able and experienced officer *.

Such an uniform tenor of conduct can never fail to produce the utmoſt harmony, cheerfulneſs, and contentment, throughout a whole ſhip's crew, and conſequently to have the happieſt effect in the preſervation of health; while the officer who ſo conducts himſelf is univerſally reſpected and beloved,

* The character I have here endeavoured to pourtray, and which, in a medical view, I would wiſh to hold up as a model to the younger officers, who wiſh to excel in their profeſſion, was early impreſſed on my mind in my firſt voyage in the Earl Talbot. From that period, in a ſervice that abounds with ſo much talent, I have ſeen many ſimilar inſtances among my valuable ſhipmates, that have left me with the ſame impreſſion which I firſt received.

and his orders and commands at all times readily and cheerfully attended to with the utmoſt activity and exertion.

Pardon me, Honourable Sirs, for this digreſſion, and for preſuming to ſtate my opinion of the duties of a ſtation, which, in every reſpect, the generality of the gentlemen in your ſervice are allowed ſo ably and diligently to fill.

To return to my proper ſubject, I have to remark, when a man unfortunately dies of a putrid fever, dyſentery, or any other contagious diſeaſe, that all his clothes and bedding ſhould be immediately thrown overboard (as the readieſt mode of deſtroying them), as alſo his cheſt, and no relic be left

that can can poſſibly harbour any active or latent ſeeds of the contagion.

When attention has been paid to the different means of prevention, contagious diſeaſes (as fevers, &c.) will ſeldom or never appear; at leaſt if they do, they never acquire any great degree of virulence or malignancy.

When contagion rages, however, whether from inattention or unavoidable cauſes, every endeavour muſt be made to ſubdue it, by the moſt ſtrict and rigid attention to every poſſible variety of cleanlineſs, by daily purifying every part of the ſhip with fires, fumigations, ſmoke of tobacco, and of gunpowder moiſtened

with vinegar; waſhing with warm water and ſoap, and ſprinkling every part with hot vinegar; by the conſtant uſe of windſails, and every other poſſible mode of prevention, as mentioned under the different heads.

I have particularly to remark, in times of great ſickneſs, when a man unfortunately dies, and, at the ſame time, when others are dangerouſly ill, that the uſual ceremony of tolling the ſhip's bell immediately previous to the burial ſhould always be omitted. The effects of the imagination, whether they are productive of depreſſion or excitement of mind, are aſſuredly great in inducing or in warding off, in aggravating or in

curing a number of diſeaſes; and ſea-men, by being more ſuperſtitious than any other claſs of men, are more eaſily affected in this way.

I have known men, in the laſt ſtages of fever, hurried into eternity from a dejection of mind ariſing from the impreſſion of this laſt ſolemn and affecting mark of attention to a departed friend or meſſmate; for this reaſon it ſhould, in many inſtances, be entirely omitted. Any deaths that may unfortunately happen, ſhould be kept as profound a ſecret as poſſible from ſuch as are dangerouſly ill; and while the ſurgeon is adminiſtering his cordials for the relief of the body, he ſhould at the ſame time, with tender care and humane

ſympathy, adminiſter what hope and mental comfort he can to his low and dejected patient, while yet there is a poſſibility or chance, of averting that great and awful ſtroke—the final period of worldly exiſtence.

But in caſes where *death* is certain, where a ſtrong ſelf-conſciouſneſs of approaching diſſolution exiſts, and all the powers of worldly aid avail nothing, then it peculiarly becomes the lot of the humane medical attendant to act to the beſt of his capacity in a clerical character, and to adminiſter the comforts and promiſes of religion to his dying charge, preparatory to his taking leave of this mortal ſtage, and his entering into that certain and everlaſting ſtate,

that awful "*undiſcovered country, from* "*whoſe bourne no traveller returns.*"

I HAVE now, Honourable Sirs, laid before you, in as conciſe and regular a manner as I could, ſuch remarks and obſervations relative to that moſt important ſubject, the preſervation of the health and lives of your ſeamen and ſoldiers, as my reading, obſervations, and experience, have put me in poſſeſſion of during the time I had the honour of ſerving in your employ; and in ſo doing, I have endeavoured to fulfil a moſt important part of the duties of my profeſſion.

What I have ſaid with reſpect to ſeamen, will generally apply equally well to the health and management of troops on ſhip-board: and it is in thoſe ſhips that are crowded with ſoldiers, that the different means of preventing ſickneſs ſhould be moſt diligently and carefully practiſed.

I have unavoidably extended my obſervations to a greater length than I at firſt intended; and, on a ſuperficial view, a number of circumſtances I have mentioned may, perhaps, appear of little conſequence. It ſhould be recollected, however, that it is ſeldom from a ſingle cauſe alone that diſeaſe is generated, but that the combined influence of a number of ſeemingly trivial circumſtances,

acting in concert on the human body, is often the prolific parent of the most acute, malignant, and fatal diseases; and that it is only by the strictest and most rigid attention to every circumstance, even the most minute, that success, as far as depends on our foresight and exertions, can be ensured.

It will readily occur to you, that the preservation of health is at all times much more important and desirable than the cure of diseases. It is to this grand object that I have *chiefly* attended in the observations which I have now the honour of laying before you; and it is with the fullest confidence of experience that I conclude as I began, with saying, that a careful attention to the various matters

I have ſpecified will, in great meaſure, preſerve the health of ſeamen in the longeſt voyages, and in every variety of climate. To the feelings of humanity the plan muſt be peculiarly gratifying, and to a commercial nation, its ſucceſs muſt produce infinite advantage.

It may be alledged, that ſickneſs and mortality in voyages to India are now leſs frequent than in more early times: it will be found, however, that this reſults not from a more particular attention to the preſervation of health, but is chiefly to be attributed to the great improvements in navigation, which now effect a paſſage in a quarter or third of the time uſual in former periods. In proof of this, we have daily and melan-

choly inſtances of the ſickneſs and mortality that ſtill occur in long voyages *.

Certainly, of all voyages thoſe to India, from their length and duration, afford the beſt opportunity for medical improvements, and for aſcertaining, by experiment and obſervation, the means beſt adapted for the preſervation of health in voyages to hot climates. Whenever, therefore, this ſubject ſhall meet with general attention, and the execution of the different means for preſerving health ſhall be conſidered not only as the duty of ſurgeons, but that of every commander and officer, the improvements

* The great ſickneſs and mortality that occurred in the laſt China fleet fully proves the above obſervation.

in this department will, with due encouragement, render the Eaſt India Company's ſervice as famed a ſchool for this part of medical knowledge, as it has long been for nautical talents.

On a ſlight view, the execution of all that I have mentioned may appear to ſome rather difficult and complicated: it appears to me, however, only to want a degree of abridged arrangement to reduce it to ſimple rules and regulations, or to a ſhort methodical ſyſtem of diſcipline for the preſervation of health, that may be eaſily executed.

But were I to admit the difficulty of execution (which I by no means do), what trouble, care, or attention, ſhould be

withheld in endeavouring to ſecure the certainty of keeping a whole ſhip's company in a healthy, vigorous, and active ſtate—of preſerving many a valuable ſeaman to his country and friends—and by ſo doing, of materially ſerving the great cauſe of humanity, in conjunction with that of the great maritime nation to which we belong?

Such, Honourable Sirs, are the hints I have to ſuggeſt: ſhould my humble endeavours to be of uſe prove acceptable to your Honourable Court; ſhould they meet with any degree of general attention on board your ſhips, or induce others, better qualified, from experience and ability, to extend farther the conſideration of an object "ſo devoutly to

be wiſhed," as the more effectual preſervation of the health and lives of your ſeamen and ſoldiers, I ſhall feel truly happy, and be amply gratified in the honour of having thus introduced to your notice a ſubject ſo extremely important and intereſting.

I have the honour to ſubſcribe myſelf, with all deference and reſpect,

Honourable Sirs,

Your moſt obedient,

faithful, and obliged

humble ſervant,

ALEX. STEWART.

FINIS.